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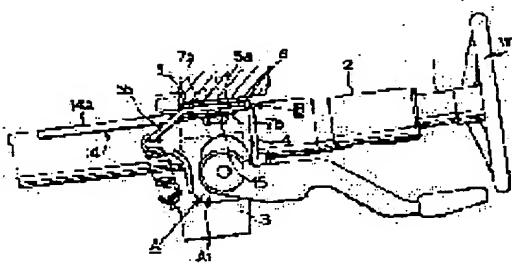
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 FUJIO ISAO

(54) SUPPORTING DEVICE OF STEERING COLUMN

(57)Abstract:

PURPOSE: To hold a bracket supporting a steering column in a proper spot in a car body in an extremely stable state.

CONSTITUTION: In this supporting device, a pressing support plate apart 7a and a pressed support plate part 7b are formed each via a turnup bend 8, and both front and rear pressing projection strips are formed in this pressing support plate part 7a. The pressed support plate part 7b forms an opposed surface with the pressing support plate part 7a into a flat form, setting it to a sliding plate B. In addition, a bracket A formed with a horizontal part 5a with a sliding notch is installed at both sides in the cross direction. This supporting device is made up of holding this horizontal part 5a between both these pressing support plate parts 7a and 7b and clamping it tight.



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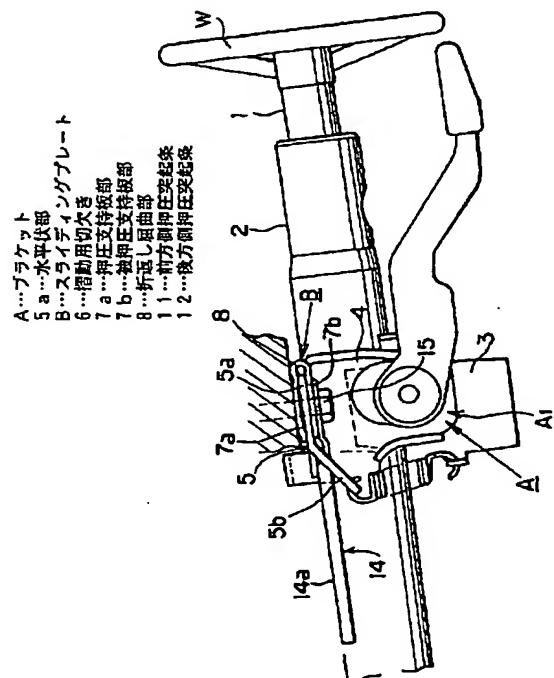
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(54)【発明の名称】ステアリングコラムの支持装置

(57)【要約】

【目的】ステアリングコラムを支持するプラケットを車体適所に極めて安定した状態に保持すること。

【構成】折返し屈曲部8を介して押圧支持板部7a及び被押圧支持板部7bをそれぞれ形成し、該押圧支持板部7aには前方側押圧突起条11及び後方側押圧突起条12を形成すること。その被押圧支持板部7bは押圧支持板部7aとの対向面を平坦状に形成し、スライディングプレートBとすること。さらに幅方向両側に摺動用切欠き6、6を有する水平状部5a、5aを形成したプラケットAを備えること。押圧支持板部7aと被押圧支持板部7bにて水平状部5aを挟持固定してなること。



【特許請求の範囲】

【請求項1】 折返し屈曲部を介して押圧支持板部及び被押圧支持板部をそれぞれ形成し、押圧支持板部には前方側押圧突起条及び後方側押圧突起条を形成し、被押圧支持板部は押圧支持板部との対向面を平坦状に形成したスライディングプレートと、幅方向両側に摺動用切欠きを有する水平状部を形成したブラケットとからなり、押圧支持板部と被押圧支持板部にて水平状部を挟持固定してなることを特徴としたステアリングコラムの支持装置。

【請求項2】 請求項1において、前記スライディングプレートの押圧支持板部の前方側押圧突起条を押圧支持板部の幅方向の中心に形成し、後方側押圧突起条を押圧支持板部の幅方向両側端に分離して形成してなることを特徴としたステアリングコラムの支持装置。

【請求項3】 請求項1において、前記スライディングプレートの押圧支持板部の前方側押圧突起条を押圧支持板部の幅方向の両側に分離形成し、後方側押圧突起条を押圧支持板部の幅方向両側に分離形成してなることを特徴としたステアリングコラムの支持装置。

【発明の詳細な説明】

【0001】

【産業上の利用分野】 本発明は、ステアリングコラムを支持するブラケットを極めて安定した状態に保持することができるステアリングコラムの支持装置に関する。

【0002】

【従来の技術】 ステアリングコラムを支持するブラケットを衝撃時の移動可能に車体内に固定する手段が種々存在しており、一般的なものを簡単に説明すると、プレートをU字状に折曲げて固定ボルト挿通用の長孔と、該長孔の両側にその長手方向に沿って押圧部を形成したスライディングプレートを用いて、ブラケットを衝撃時には前輪方向に移動可能に車体内に固定したものである。

【0003】

【発明が解決しようとする課題】 従来技術より、チルト機構を有しない固定ブラケットの場合には固定ブラケットをスライディングプレートの押圧部によって弾発的に支持して、その押圧部の接触状態が一点接触支持となつても、安定してブラケット及びコラムを支持することができる。

【0004】 しかし、チルト機構も備えたステアリング装置では、ステアリングコラムが上下動する際に、チルト作動時にステアリングコラムから上下方向の荷重が固定ブラケットにかかり、さらに該ブラケットを弾発状態に支持するスライディングプレートがその荷重を均等に受けることが難しく、固定ブラケットの安定性を欠くものであった。

【0005】

【課題を解決するための手段】 そこで発明者は、前記課題を解決すべく、鋭意、研究を重ねた結果、本発明を、

折返し屈曲部を介して押圧支持板部及び被押圧支持板部をそれぞれ形成し、押圧支持板部には前方側押圧突起条及び後方側押圧突起条を形成し、被押圧支持板部は押圧支持板部との対向面を平坦状に形成したスライディングプレートと、幅方向両側に摺動用切欠きを有する水平状部を形成したブラケットとからなり、押圧支持板部と被押圧支持板部にて水平状部を挟持固定してなるステアリングコラムの支持装置としたことにより、極めて簡単な構造にて、ステアリングコラム及びブラケットが衝撃時ににおいて、良好に反応して移動するとともに、常時は極めて安定した状態にて固定されるものである。

【0006】

【実施例】 以下、本発明の実施例を図面に基づいて説明すると、ステアリングシャフト1は、図1に示すように、ステアリングコラム2に内装され、該ステアリングコラム2がブラケットAによって車内の所定箇所に固定されている。ブラケットAは、図1、図2等に示すように、ステアリングコラム2を支持するものとして構成され、ステアリングコラム2を昇降させるための昇降用ブラケット3とステアリングコラム2を所定位置に固定する固定ブラケットA₁からなり、昇降用ブラケット3が固定ブラケットA₁に対して昇降し、ステアリングシャフト1を適宜の位置に設定する。

【0007】 ブラケットAの固定ブラケットA₁は支持側部4、4の上端から外方に向かって水平状の取付固定部5、5が形成され、両取付固定部5、5は左右対称の同一形状をなしており、それぞれの取付固定部5、5の水平状部5a、5a及び斜面5b、5bからなる（図1、図6参照）。

【0008】 その取付固定部5、5の水平状部5a、5aには、図9に示すように、摺動用切欠き6、6が形成され、該摺動用切欠き6は平面的に見て、略U字形状に切欠き形成され、ブラケットAのステアリングホイールW側が開放され、それぞれの水平状部5aの摺動用切欠き6付近には後述のスライディングプレートBが備わるものである。

【0009】 そのスライディングプレートBは、図3乃至図5に示すように、折返し屈曲部8を介して押圧支持板部7a及び被押圧支持板部7bが上下方向に対向して一体形成されたものであり、両押圧支持板部7a、被押圧支持板部7bの略中央箇所に固定用貫通孔9、9が形成されている。

【0010】 対向する押圧支持板部7aと被押圧支持板部7b間にはカラー部10が形成されており、押圧支持板部7aと被押圧支持板部7bが一定間隔を保つことができるようになっており、そのカラー部10は具体的には、図5(a)に示すように、前記両固定用貫通孔9、9の周囲に互いに他方側に向かって形成されており、両固定用貫通孔9、9に形成したカラー部10、10の先端同士が当接するようになっている。

【0011】また、図示しないが両固定用貫通孔9, 9のいずれか一方にのみカラー部10が形成され、該カラー部10の先端が他方の押圧支持板部7a或いは被押圧支持板部7bに当接して、押圧支持板部7aと被押圧支持板部7bの間隔を一定に保つ構造とした実施例も存在する。その押圧支持板部7aには、図3乃至図5に示すように、前方側押圧突起条11と後方側押圧突起条12が形成されており、該前方側押圧突起条11及び後方側押圧突起条12は対向する被押圧支持板部7b側に向かって突出条に形成されたものである。

【0012】ここで、スライディングプレートBをプラケットAに装着したときに、押圧支持板部7aの前方側押圧突起条11は前輪側に位置し、後方側押圧突起条12はステアリングホイールW側に位置するものである(図1, 図2参照)。さらに、その前方側押圧突起条11と後方側押圧突起条12とはスライディングプレートBの折返し屈曲部8に略平行状となっており、その断面は略偏平状の山形円弧形状となっている。

【0013】押圧支持板部7aの前方側押圧突起条11は、図4に示すように、押圧支持板部7aの幅方向の中心に一つ形成され、また後方側押圧突起条12は押圧支持板部7aの幅方向両側に分離して形成されている。また、図11に示すように、前方側押圧突起条11は押圧支持板部7aの幅方向両側箇所に形成さる実施例も存在する。

【0014】その押圧支持板部7aと被押圧支持板部7bとは、前記プラケットAの水平状部5aを挟むようにし、且つスライディングプレートBのカラー部10, 10が摺動用切欠き6内に挿通し、摺動用切欠き6と固定用貫通孔9, 9が位置的に一致するように形成されている。さらに、スライディングプレートBの押圧支持板部7aの前方側押圧突起条11, 後方側押圧突起条12及び被押圧支持板部7bが前記水平状部5aを押圧固定し、また被押圧支持板部7bが水平状部5aに面接触状態となる(図7, 図8参照)。

【0015】また、プラケットAの取付固定部5, 5に形成された斜面5b, 5bには、圧壊貫通部13が形成され、該圧壊貫通部13によって後述するエネルギー吸収体14の被圧壊膨出条14aを圧壊することにより、衝突等による衝撃のエネルギーの吸収ができるようになっている。そのエネルギー吸収体14は、被圧壊膨出条14aと板状取付部14bとからなり、該板状取付部14bが前記圧壊貫通部13に挿入されつつ係止され、前記板状取付部14b端はスライディングプレートBとともに固着具15を介して車内に移動不能に固定される。そして、衝撃発生時にプラケットAが前輪側に移動するときに圧壊貫通部13がエネルギー吸収体14の被圧壊膨出条14aを圧壊しながら移動することにより、エネルギーを吸収することができるものとなっている。

【0016】

【発明の効果】請求項1の発明においては、折返し屈曲部8を介して押圧支持板部7a及び被押圧支持板部7bをそれぞれ形成し、押圧支持板部7aには前方側押圧突起条11及び後方側押圧突起条12を形成し、被押圧支持板部7bは押圧支持板部7aとの対向面を平坦状に形成したスライディングプレートBと、幅方向両側に摺動用切欠き6, 6を有する水平状部5a, 5aを形成したプラケットAとからなり、押圧支持板部7aと被押圧支持板部7bにて水平状部5aを挟持固定してなるステアリングコラムの支持装置としたことにより、先ず第1にステアリングコラム2の取付剛性を向上させることができるとし、第2にプラケットAを常に安定状態で装着できる等の効果を奏する。

【0017】上記効果を詳述すると、押圧支持板部7aは前方側押圧突起条11及び後方側押圧突起条12をそれぞれ設けており、被押圧支持板部7bでは押圧支持板部7aとの対向面を平坦状に形成しており、図7, 図8に示すように、固定プラケットA₁の水平状部5aに対して、その一側面で押圧支持板部7aの前方側押圧突起条11及び後方側押圧突起条12により弾発的に押圧作用をなし、また被押圧支持板部7bは面接触状態で全面支持することができる。即ち、固定プラケットA₁を平面状に見たときに被押圧支持板部7bが水平状部5aを比較的広範囲にわたって面接触することで安定的支持を得ることができる。

【0018】それゆえに、ステアリングコラム2の取付剛性を一層向上させることができると共に、スライディングプレートBの塑性変形に対する耐久性が高められ、プラケットAに対するスプリング押圧接触状態をより一層安定させることができ、プラケットAを常に安定状態で支持することができる。

【0019】さらに、スライディングプレートBの被押圧支持板部7bは押圧支持板部7aとの対向する面が平坦状に形成されていることから、固定プラケットA₁の水平状部5aからスライディングプレートBが水平方向に外れる際に安定した状態で摺動しつつはざれることができる(図10参照)。

【0020】次に、請求項2の発明においては、前記スライディングプレートBの押圧支持板部7aの前方側押圧突起条11を押圧支持板部7aの幅方向の中心に形成し、後方側押圧突起条12を押圧支持板部7aの幅方向両側端に分離して形成してなるステアリングコラムの支持装置としたことにより、前方側押圧突起条11は押圧支持板部7aの幅方向の中心に形成し、また後方側押圧突起条12は押圧支持板部7aの幅方向両側端に分離して形成しているので、押圧側を三点支持状態にして、極めて簡易な形状でありながら最小限の安定性を確保することができる。

【0021】請求項3の発明においては、前記スライディングプレートBの押圧支持板部7aの前方側押圧突起

条11を押圧支持板部7aの幅方向の両側に分離形成し、後方側押圧突起条12を押圧支持板部7aの幅方向両側に分離形成してなるステアリングコラムの支持装置としたことにより、前方側押圧突起条11は押圧支持板部7a及び後方側押圧突起条12を幅方向両側に分離形成していることで、押圧状態をより一層強力にすることができる。

【図面の簡単な説明】

【図1】本発明を使用したステアリング装置の側面図

【図2】本発明の要部を示す平面図

【図3】スライディングプレートの一部切除した斜視図

【図4】スライディングプレートの折返し屈曲部側から見た斜視図

【図5】(a) はスライディングプレートの断面図

(b) はスライディングプレートの押圧支持板部を一部切除した平面図

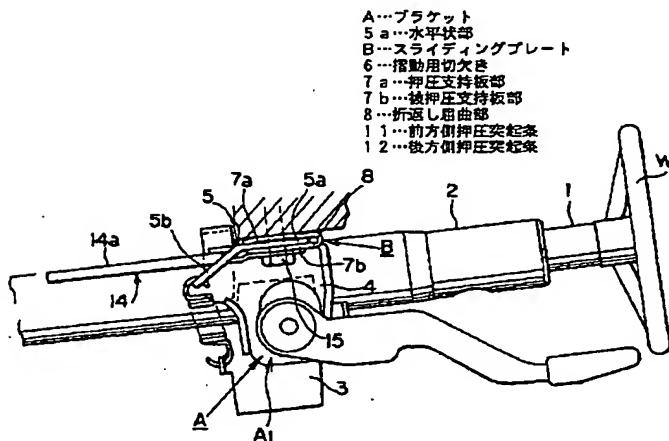
【図6】スライディングプレートを固定ブラケットに装着した状態の断面斜視図

【図7】スライディングプレートを固定プラケットに装

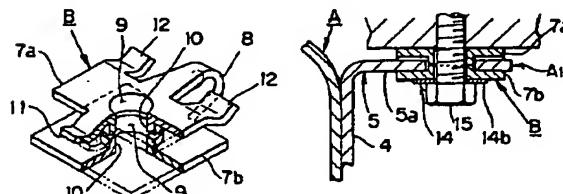
[図 1]

[図3]

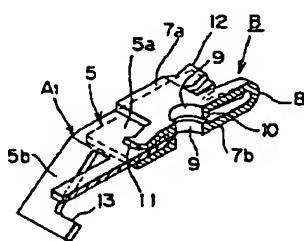
〔図 8〕



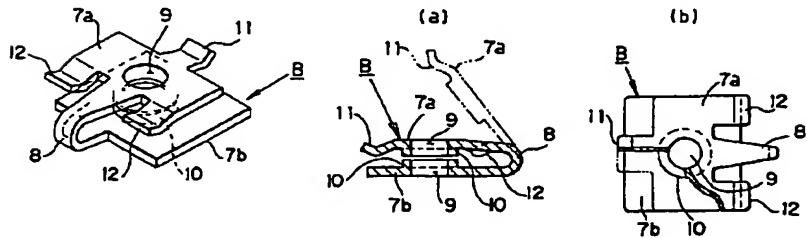
[図4]



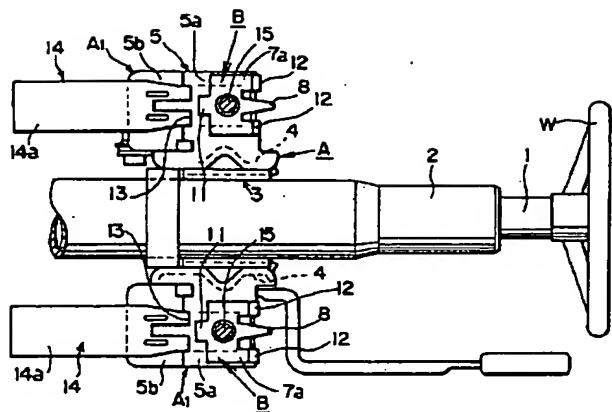
[図 6]



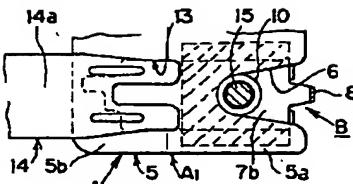
〔図7〕



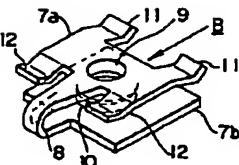
【図2】



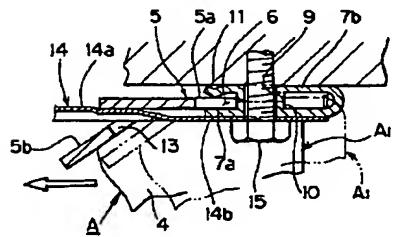
【図9】



【図11】



【図10】



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CLAIMS

[Claim(s)]

[Claim 1] The press support plate section and the pressed support plate section are formed through a flection, respectively by return. The sliding plate in which the front side press protruding strip and the back side press protruding strip were formed in the press support plate section, and the pressed support plate section formed the opposed face with the press support plate section in the shape of flatness, Means for supporting of the steering column which consisted of a bracket which formed in crosswise both sides the horizontal-like section which has a notch for sliding, and was characterized by coming to carry out pinching immobilization of the horizontal-like section in the press support plate section and the pressed support plate section.

[Claim 2] Means for supporting of the steering column characterized by forming the front side press protruding strip of the press support plate section of said sliding plate in the core of the cross direction of the press support plate section, and separating and coming to form a back side press protruding strip in the crosswise both-sides edge of the press support plate section in claim 1.

[Claim 3] Means for supporting of the steering column which carried out separation formation of the front side press protruding strip of the press support plate section of said sliding plate at the both sides of the cross direction of the press support plate section, and was characterized by coming to carry out separation formation of the back side press protruding strip at the crosswise both sides of the press support plate section in claim 1.

[Translation done.]

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Industrial Application] This invention relates to the means for supporting of the steering column which can hold the bracket which supports a steering column in the condition of having been stabilized extremely.

[0002]

[Description of the Prior Art] A bracket is fix in a car body movable [in the direction of a front wheel] at the time of an impact using the sliding plate which bent the plate to the shape of U character when a means to fix the bracket which supports a steering column in a car body movable only at the time of an impact existed variously and the general thing was explained briefly , and formed the press section in the both sides of the long hole for securing bolt insertion , and this long hole along with the longitudinal direction .

[0003]

[Problem(s) to be Solved by the Invention] Even if the contact condition of the press section consists of the conventional technique with 1 point-contact support in support of a fixed bracket in a from cartridge by the press section of a sliding plate in the case of the fixed bracket which does not have a tilt feature, it is stabilized and a bracket and a column can be supported.

[0004] However, in the steering system equipped also with the tilt feature, in case a steering column moved up and down, it was difficult for the sliding plate which the load of the vertical direction is applied to a fixed bracket from a steering column at the time of tilt actuation, and supports this bracket in the condition from a cartridge further to receive the load equally, and it was a thing lacking in the stability of a fixed bracket.

[0005]

[Means for Solving the Problem] Then, the result of having repeated research wholeheartedly an artificer solving said technical problem, The press support plate section and the pressed support plate section are formed for this invention through a flection, respectively by return. The sliding plate in which the front side press protruding strip and the back side press protruding strip were formed in the press support plate section, and the pressed support plate section formed the opposed face with the press support plate section in the shape of flatness, By having consisted of a bracket which formed in crosswise both sides the horizontal-like section which has a notch for sliding, and having considered as the means for supporting of the steering column which comes to carry out pinching immobilization of the horizontal-like section in the press support plate section and the pressed support plate section While a steering column and a bracket react good and move with very easy structure at the time of an impact, it is fixed in the condition of always having been stabilized extremely.

[0006]

[Example] Hereafter, if the example of this invention is explained based on a drawing, as a steering shaft 1 is shown in drawing 1 , interior is carried out to a steering column 2, and this steering column 2 is being fixed to the predetermined part in the car with Bracket A. the bracket 3 for rise and fall for Bracket A being constituted as what supports a steering column 2 as shown in drawing 1 , drawing 2 , etc., and making it go up and down a steering column 2, and fixed bracket A1 which fixes a steering column 2 to a predetermined location from — becoming — the bracket 3 for rise and fall — fixed bracket A1 It receives, and it goes up and down and a steering shaft 1 is set as a proper location.

[0007] Fixed bracket A1 of Bracket A The level-like attachment fixed parts 5 and 5 are formed toward the method of outside from the upper limit of the support flanks 4 and 4, and both the attachment fixed parts 5 and 5 are making the same configuration of bilateral symmetry, and consist of the level-like sections 5a and 5a and the slant faces 5b and 5b of each attachment fixed part 5 and 5 (refer to drawing 1 R> 1 and drawing 6).

[0008] The notches 6 and 6 for sliding are formed, as shown in drawing 9 , it sees superficially, notch formation is carried out at the abbreviation configuration for U characters, the steering wheel W side of Bracket A is wide

opened by the level-like sections 5a and 5a of the attachment fixed parts 5 and 5, and this notch 6 for sliding is equipped with the below-mentioned sliding plate B in them near [for sliding / notch 6] each level-like section 5a.

[0009] As the sliding plate B is shown in drawing 3 thru/or drawing 5 , by return, press support plate section 7a and pressed support plate section 7b counter in the vertical direction, and are really formed through a flection 8, and the through tubes 9 and 9 for immobilization are formed in the abbreviation central part of both press support plate section 7a and pressed support plate section 7b.

[0010] The color section 10 is formed between press support plate section 7a which counters, and pressed support plate section 7b. Press support plate section 7a and pressed support plate section 7b can maintain fixed spacing now. The color section 10 specifically As shown in drawing 5 (a), it is mutually formed in the perimeter of said through tubes 9 and 9 for both immobilization toward the other side, and the tips of the color sections 10 and 10 formed in the through tubes 9 and 9 for both immobilization contact.

[0011] Moreover, although not illustrated, the color section 10 is formed only in either of the through tubes 9 and 9 for both immobilization, the tip of this color section 10 contacts press support plate section 7a of another side, or pressed support plate section 7b, and the example made into the structure which keeps constant spacing of press support plate section 7a and pressed support plate section 7b also exists. As shown in drawing 3 thru/or drawing 5 , the front side press protruding strip 11 and the back side press protruding strip 12 are formed in the press support plate section 7a, and this front side press protruding strip 11 and the back side press protruding strip 12 project toward the pressed support plate section 7b side which counters, and are formed in **.

[0012] Here, when Bracket A is equipped with a sliding plate B, the front side press protruding strip 11 of press support plate section 7a is located in a front-wheel side, and the back side press protruding strip 12 is located in a steering wheel W side (refer to drawing 1 and drawing 2). Furthermore, the front side press protruding strip 11 and the back side press protruding strip 12 serve as a letter of abbreviation parallel at the cuff flection 8 of a sliding plate B, and the cross section serves as the abbreviation flat-like Yamagata radii configuration.

[0013] As the front side press protruding strip 11 of press support plate section 7a is shown in drawing 4 , it is formed in one core of the cross direction of press support plate section 7a, and the back side press protruding strip 12 is separated and formed in the crosswise both sides of press support plate section 7a. moreover, it is shown in drawing 11 — as — the front side press protruding strip 11 — the crosswise both-sides part of press support plate section 7a — **** — last example also exists.

[0014] The press support plate section 7a and pressed support plate section 7b sandwich horizontal-like section 5a of said bracket A, and the color sections 10 and 10 of a sliding plate B insert them in in the notch 6 for sliding, and they are formed so that the notch 6 for sliding and the through tubes 9 and 9 for immobilization may be in agreement in location. Furthermore, the front side press protruding strip 11 of press support plate section 7a of a sliding plate B, the back side press protruding strip 12, and pressed support plate section 7b carry out press immobilization of said level-like section 5a, and pressed support plate section 7b will be in a field contact condition at level-like section 5a (refer to drawing 7 and drawing 8).

[0015] Moreover, the collapse penetration section 13 is formed in the slant faces 5b and 5b formed in the attachment fixed parts 5 and 5 of Bracket A, and it has come to be able to perform absorption of the energy of the impact by collision etc. by collapsing collapsed ***** 14a of the energy-absorbing object 14 later mentioned by this collapse penetration section 13. The energy-absorbing object 14 consists of collapsed ***** 14a and tabular attachment section 14b, and it is stopped, this tabular attachment section 14b being inserted in said collapse penetration section 13, and said tabular attachment section 14b edge is fixed to in the car by migration impossible through the fixing implement 15 with a sliding plate B. And energy is absorbable by moving, while the collapse penetration section 13 collapses collapsed ***** 14a of the energy-absorbing object 14, when Bracket A moves to a front-wheel side at the time of impact generating.

[0016]

[Effect of the Invention] In invention of claim 1, press support plate section 7a and pressed support plate section 7b are formed through a flection 8, respectively by return. The sliding plate B in which the front side press protruding strip 11 and the back side press protruding strip 12 were formed in press support plate section 7a, and pressed support plate section 7b formed the opposed face with press support plate section 7a in the shape of flatness It consists of a bracket A which formed in crosswise both sides the horizontal-like sections 5a and 5a which have the notches 6 and 6 for sliding. By having considered as the means for supporting of the steering column which comes to carry out pinching immobilization of the horizontal-like section 5a in press support plate section 7a and pressed support plate section 7b The attachment rigidity of a steering column 2 can be raised [1st] first, and the effectiveness of always being able to equip the 2nd with Bracket A by the stable state is

done so.

[0017] When the above-mentioned effectiveness is explained in full detail, as press support plate section 7a has formed the front side press protruding strip 11 and the back side press protruding strip 12, respectively, the opposed face with press support plate section 7a is formed in the shape of flatness in pressed support plate section 7b and it is shown in drawing 7 and drawing 8 Fixed bracket A1 Nothing and pressed support plate section 7b can support a press operation completely in the state of field contact in a from cartridge on the one side face to level-like section 5a with the front side press protruding strip 11 of press support plate section 7a, and the back side press protruding strip 12. Namely, fixed bracket A1 When it sees to a plane, stable support can be gained because pressed support plate section 7b reaches far and wide comparatively and carries out field contact of the level-like section 5a.

[0018] So, while being able to raise the attachment rigidity of a steering column 2 further, the endurance over the plastic deformation of a sliding plate B is raised, the spring press contact condition over Bracket A can be stabilized further, and Bracket A can always be supported by the stable state.

[0019] Furthermore, pressed support plate section 7b of a sliding plate B is the fixed bracket A1 since the field with press support plate section 7a which counters is formed in the shape of flatness. It can separate, sliding in, the condition of having been stabilized when a sliding plate B separated horizontally from level-like section 5a (refer to drawing 10).

[0020] Next, in invention of claim 2, the front side press protruding strip 11 of press support plate section 7a of said sliding plate B is formed in the core of the cross direction of press support plate section 7a. By having considered as the means for supporting of the steering column which separates and comes to form the back side press protruding strip 12 in the crosswise both-sides edge of press support plate section 7a Since the front side press protruding strip 11 is formed in the core of the cross direction of press support plate section 7a and the back side press protruding strip 12 is separated and formed in the crosswise both-sides edge of press support plate section 7a, a press side is changed into a three point suspension condition, and the minimum stability is securable though it is a very simple configuration.

[0021] In invention of claim 3, separation formation of the front side press protruding strip 11 of press support plate section 7a of said sliding plate B is carried out at the both sides of the cross direction of press support plate section 7a. By having used the back side press protruding strip 12 as the means for supporting of the steering column which comes to carry out separation formation at the crosswise both sides of press support plate section 7a By carrying out separation formation of press support plate section 7a and the back side press protruding strip 12 at crosswise both sides, the front side press protruding strip 11 can make a press condition much more powerful.

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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

- [Drawing 1] The side elevation of the steering system which used this invention
- [Drawing 2] The top view showing the important section of this invention
- [Drawing 3] The perspective view which the sliding plate excised the part
- [Drawing 4] The perspective view seen from the cuff flection side of a sliding plate
- [Drawing 5] (a) is the sectional view of a sliding plate.
(b) is the top view which excised a part of press support plate section of a sliding plate.
- [Drawing 6] The cross-section perspective view in the condition of having equipped the fixed bracket with the sliding plate
- [Drawing 7] The sectional view in the condition of having equipped the fixed bracket with the sliding plate
- [Drawing 8] The important section sectional view which equipped the fixed bracket with the sliding plate
- [Drawing 9] The top view of the attachment condition of the bracket supported in the sliding plate
- [Drawing 10] The sectional view showing the stable state of the bracket supported in the sliding plate
- [Drawing 11] The perspective view of the sliding plate of another example

[Description of Notations]

- A -- Bracket
- 5a -- Horizontal-like section
- B -- Sliding plate
- 6 -- Notch for sliding
- 7a -- Press support plate section
- 7b -- Pressed support plate section
- 8 -- Cuff flection
- 11 -- Front side press protruding strip
- 12 -- Back side press protruding strip

[Translation done.]